STORM WATER GUIDANCE

Guidance for the Watershed Permit - General Permit No. MIG619000

IDEP Overview

The Illicit Discharge Elimination Plan (IDEP) is a program that is designed to prohibit and effectively eliminate illicit discharges and connections, including discharges of sanitary wastewater to the permittee's separate storm sewer system.

The term separate storm sewer system includes both open and enclosed drainage systems that are owned or operated by the permittee and discharge either to a surface water of the state or to a separate storm water drainage system operated by another public body. Municipal separate storm sewer systems may include orphan or abandoned drains within the permittee's jurisdiction.

Open county drains that are considered to be surface waters of the state are not considered to be part of the county's separate storm sewer system. The appropriate IDEP activities for these drains are the same as they would be for any water of the state. They include seeking the point sources where the permittee's separate storm sewers discharge to these waters of the state, and performing dry-weather screening at those point sources. Privately owned and operated drainage systems that discharge directly to surface waters of the state do not have to be included under the IDEP. However, to develop a comprehensive watershed management plan, these county drains and private discharges should be considered when assessing the nature and status of the watershed. These systems could be contributing excess nutrients, bacteria, contaminants and flow to the watershed.

IDEP implementation under the Watershed Permit is not restricted to just the urbanized area but is required to be implemented throughout the watershed area(s) under the permittee's jurisdiction for which they have coverage as indicated in their Certificate of Coverage.

Elements of the IDEP

The following are key IDEP terms and their definitions:

Illicit discharge: Any discharge (or seepage) to the separate storm water drainage system that is not composed entirely of storm water or uncontaminated groundwater.
Illicit connection: A physical connection to the separate storm water drainage system that 1) primarily conveys illicit discharges into the system and/or 2) is not authorized or permitted by the local authority (where a local authority requires such authorization or permit).
Point source: An outfall from a drainage system to waters of the state, or a point where a storm water drainage system discharges into a system operated by another public body.
Significant Illicit Discharge: A discharge that shows evidence of impairing water quality in the receiving water.

The above definitions should be included in the IDEP. Defining these terms in the IDEP will ensure that the program is developed and implemented with a clear understanding of the type of sources that the plan is designed to eliminate.

This guidance document addresses four permit requirements and the key components relating to these requirements which are considered necessary in an approvable IDEP. Each component includes a list of required activities, and a list of recommended activities that are often used to meet these requirements.

1. A program to find, prioritize and eliminate illicit discharges and illicit connections identified during dry weather screening activities.

(Watershed Permit MIG619000, Part I.A.3.a.1)

A. Method(s) for finding point source discharges

Field verification of point sources

Required
- Verification of existing known point sources
- Identification of previously unknown point sources

Recommended
- Review of historical blueprints, maps, and site plans
- Walking of drains and other surface waters as a method of finding previously unknown point sources from separate storm sewer systems
- Verifying outfalls to open drains should be done when there is good visibility of the bank
  - Spring and late Fall when there is no or little snow, low flow conditions, and/or little vegetation to hide pipes or outlets
- Obtaining specific site coordinates of each point source

Training of staff to identify illicit discharges/connections

Required
- Training of staff that will participate in IDEP related activities on: what are illicit discharges/connections; techniques for finding and identifying illicit discharges/connections; techniques for sampling, analyzing, and recording; and proper methods/procedures for eliminating the illicit discharges/connections
- Training to include recognition of naturally occurring phenomena and their sources (bacterial sheens, slimes and films, bryozoans, pollen, blue-green algae and green algae, tannins and foams)

Recommended
- Training of other, non-IDEP, municipal staff
- Train staff to identify illicit discharges and connections in day-to-day activities and to report them when found
- Train building and engineering department staff to recognize potential cross-connections and drainage issues
- Training on safety issues associated with IDEP activities

Dry weather screening of point source discharges

Required
- Method for determining screening schedule
- Conducted during dry weather conditions
- Conducted at all point sources (enclosed discharge points and outfalls to waters of the state)
- At a minimum, screening must involve observations of the following physical characteristics
  - Flows during dry weather conditions
  - Water clarity and color
  - Presence of foam, oil sheen, trash, and/or floatable materials*
  - Presence of bacterial sheen or slimes*
  - Staining of the banks, outfall structure, and/or vegetation*
  - Excessive vegetative growth*
  - Odor*

* these characteristics should be documented even if there is no flow at the time of observation

- Confirmation of illicit discharges/connections (at least one of the following)
  - Chemical and bacterial sampling
  - Televising sewer
  - Dye testing of sewers and/or facilities
  - Smoke testing
  - Documented visual observation

- If the permittee uses tracer dyes to locate illicit connections, approval must be obtained from MDEQ prior to discharge. Guidance for approval is available on page 5.

Recommended

- Perform screening at same time as field verification of the point sources
- Allow a minimum of 72 hours after previous storm event and avoid times of snow melt when screening of point sources to ensure observation of only dry weather flows
- IDEP efforts should be coordinated with applicable county, municipal, and other public agencies (e.g., MDOT).
- Prioritize screening schedule based on community development patterns, historical information, and/or known water quality concerns
- Notify appropriate agencies within 24 hours when any type of significant illicit discharge is found that has the potential to seriously effect water quality, designated uses, and public health. The evidence for significant illicit discharges may be visual, produce an odor, or be determined by chemical or bacterial analysis.

B. Method(s) for prioritizing the elimination of illicit discharges/illicit connections

Prioritization of illicit discharges/illicit connections for elimination

Required

- Prioritization strategy for illicit discharges
- Prioritization strategy for illicit connections
- Based on prioritization strategy, eliminate high priority discharges/connections ASAP

Recommended

- Prioritize results from
  - Ambient water quality analysis
  - Dry weather observations
  - Chemical and bacterial analysis
  - Video observations of sewers
  - Dye testing and smoke testing results
  - Evaluation of receiving waters for
    - beneficial uses
    - impaired or threatened water bodies
    - existing water quality data
    - threatened or endangered fauna or flora

C. Method(s) for eliminating the illicit discharge/ illicit connection

Eliminating the illicit discharge/illicit connection

Required

- Establish/confirm legal authority to investigate, eliminate, and prohibit illicit discharges
- Develop an enforcement system
- Establish system to track the elimination status of the discharge
- Confirmation that illicit connections are removed or permanently plugged

Recommended

- Identify other entities that may have legal authority to prohibit and eliminate illicit discharges/connections, and the situations where these agencies may be called upon
- Confirmation that the waste is now discharged, reused, or recycled properly

2. A description of a program to minimize infiltration of seepage from sanitary sewers and on-site sewage disposal systems into applicant's separate storm water drainage system.

(Watershed Permit MIG619000, Part I.A.3.a.2)

A. Method(s) to minimize seepage from sanitary sewers

Required

- Strategy to minimize seepage from sanitary sewers
- Depending on the strategy used, a combination of the following recommended activities may need to be included in order to be deemed adequate

Recommended

- Determination of areas where sanitary sewers are in close proximity to storm sewers (review of sanitary and storm sewer maps)
- Bacterial and chemical sampling of point source discharges during dry weather conditions
- Determination of the integrity of sanitary sewers (e.g., televising lines)
- Program for routine maintenance and inspection of sanitary sewers
- Sanitary surveys

B. Method(s) to minimize seepage from failing on-site sewage disposal systems (OSDS)

Required

- Strategy to minimize seepage from failing OSDS
- Depending on the strategy used, a combination of the following recommended activities may need to be included in order to be deemed adequate

Recommended

- Review of water bills to determine areas where OSDS are being used
- Development of ordinance requiring inspection of OSDS at time of sale or other set interval (include evaluation of soil suitability, water table, and age of system)
- Walk open storm sewer systems, county drains, and surface waters of the state
- Bacterial and chemical sampling of point source discharges from the storm sewer system during dry weather conditions
  - Follow-up inspections of OSDSs that could drain to the storm sewer systems that have shown to be contaminated by the bacterial and chemical sampling
- Inspection of a certain percentage of OSDSs per year
- Voluntary dye testing of septic systems
- Ensure connection to publicly operated sanitary sewer system when available. Involves inspection of OSDSs
- Ensure proper construction of new OSDS installation. Inspection by trained personnel before occupancy is allowed or when a new system is constructed
- Sanitary surveys

3. A method for determining the effectiveness of the illicit discharge elimination activities which shall, at a minimum, result in the inspection of each storm water point source very five years unless the Department approves an alternative schedule (an alternative schedule may focus efforts on urbanized areas and cover other regulated areas less frequently, based on watershed goals). (Watershed Permit MIG619000, Part I.A.3.a.3)

A. Method(s) of determining effectiveness of the IDEP

Required

- Measurable goals on which to evaluate the effectiveness of the IDEP
- Detailed schedule of implementation activities
- Routine inspection of point sources, at least once every five years, or other approved alternative schedule that could equally ensure long-term effectiveness
- For significant illicit discharges, the permittee shall list the pollutant(s) of concern, the estimated volume and load discharged, and the locations of the discharge into both the permittee's separate storm sewer system and the waters of the state

Recommended measurable goals and activities include:

- Number of illicit discharges/connections eliminated versus number found
- Percentage of municipal separate storm sewer system where illicit discharges/connections are effectively eliminated
- Timeliness of illicit discharge/connection elimination
- Estimated pollutant reductions
- Public's use of illicit discharge complaint reporting system
- Ability to meet proposed IDEP implementation schedule
- Program to monitor new construction to prevent new illicit discharges/connections
- Ambient water quality monitoring

4. An updated map of the location of each known storm water point source and the respective receiving water or drainage system (MDEQ may accept an alternate submission if the permittee demonstrates that the submission will be sufficient in the effective elimination of Ilicit disharges). (Watershed Permit MIG619000, Part I.A.3.a.4)

A. Method(s) for updating the map for each known storm water point source and the receiving water or drainage system

Required

- Updated map of storm water point source discharges, or alternate submission if approved by MDEQ. At minimum the map should include any newly constructed and newly identified point sources.

Recommended

- Use a GPS system to identify point sources on an electronic map – a GPS unit that is accurate within one meter is strongly recommended
- Review of existing maps
- Walk open storm sewer systems, county drains, and surface waters of the state to identify new point source discharges
- Televise storm sewers
- Work with down-gradient storm sewer system operators to ensure agreement on the locations where the two systems connect
- Work with other permittees in the area as necessary to agree who owns the point sources identified

Example Alternative Submission:

A subdivision has a city operated backyard drain for every 2-3 lots. These connect to a county road drain beside the road in front of these lots. The city permittee may choose to provide a written description of this drainage system without having to identify each pipe and point source connecting to the county system. This would be allowed if the location of each point source connection would provide little usable information.

Approval to use/discharge tracer dye:

Requests to discharge tracer dyes must be submitted to the Water Division District Supervisor. Information on the requests can be found by going to the DEQ website at www.michigan.gov/deqwd. Select Assessment of Michigan Waters and then select "Water Treatment Additives List".